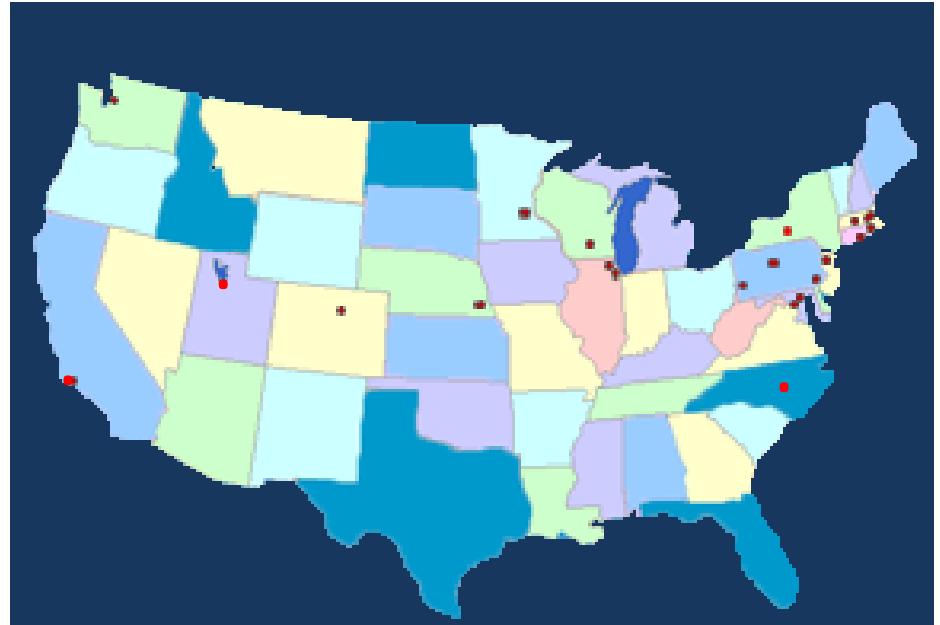


Materials Research Facilities Network (MRFN): A National Research and Education Resource



- UCSB
- UMass
- UMN
- Penn
- Yale
- UW
- NWU
- UMD
- Princeton
- CMU
- PSU
- Brown
- UNL
- UCHI
- Brandeis
- JHU
- CSM
- MIT
- Cornell
- Utah
- NYU
- Duke



- Easy access, wide geographical distribution
- Established co-ordination between centers
- Can provide varied levels of assistance and collaboration
- Large established instrument base

Over **7000** Unique Users

Over **250**
companies

**Small
Companies**

Over **200**
Universities
and Colleges

**Graduate
Students**

**Undergraduate
Students**

**National
Laboratories**

**Undergraduate
Institutions**

**K-12
Outreach**

**PREMs and
MSI's**

**Large
Companies**

Over **3000** Publications and Patents



MRFN Facilities Management Workshop

November 1-2, 2011 Northwestern University

Tuesday

1 pm	Welcome
1:30	Alternate Facility Models and New Facilities
2:30	Recharge Models and User Fees
3:35	Equipment Maintenance
4:30	Tour of NU Facilities , Dinner

Wednesday

9 am	Training Users
10 am	Logging/Tracking/Billing Strategies
11:15	Working with Outside Users
12:15	Lunch
1:15	Remote Instrument Operation and Access
2:15	Grants and Proposals
3:30	Keeping Relevant/What's Next
4:30	Informal Networking
5 pm	Closing

MRSECs

Northwestern
UC Santa Barbara
Minnesota
Massachusetts
Cornell
Nebraska
NYU
Ohio State
Penn
Utah
CSM
Wisconsin, Mad
Chicago
Nebraska
Yale
Penn State
Harvard
MIT
Princeton

PREMs

Puerto Rico
Norfolk State
Jackson State
Texas
CCNY

NNINs

Michigan
Stanford
Penn State

National Labs

Argonne

NSF





Workshop Findings

(1) Facility personnel are a precious resource.

- “Instruments are a key resource, but are useless without the expert maintenance and knowledge of technical staff.”
- “Expert staff and prompt, skilled maintenance of equipment are key services which distinguish shared facilities from individual PI-run labs, and are critical to the high customer service level necessary to recruit and retain external users.”



Workshop Findings

(2) Funding and Support for ongoing growth and maintenance is more challenging than start-up of new facilities.

Successful facilities **plan for the full life-cycle** of instrumentation and the changing needs of facilities.

- Reinvestment in a tool is required every 1.3 years to keep it operational and relevant to current research.
- Continual reinvestment and expansion of tool base has led to exponential growth in facility usage over time.



(3) Integrated software for logging, tracking, billing, interlocking, training, authorization, and remote access.

- Interlocked systems have increased logged usage by 20% at some facilities.
- Automated recharge billing can save FTEs of labor.
- Online tools allow for streamlined communication and collaboration.



Workshop Findings

(4) Opportunities for networking and sharing of best practices are critical for the efficient operation of the nation's Shared Materials Facilities.

The workshop itself provided an opportunity for increased camaraderie and networking among colleagues in shared facilities.

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- [Contact](#)

SEARCH MRFN
Facilities & Instruments:

Search

UCSB	UMASS	UMN	UWM	UPENN	YALE	UW
NWU	UMD	PRINC	CMU	PSU	BROWN	UNL
UCHI	BRAN	JHU	CSM	MIT	Cornell	

Materials Research Facilities Network



The MRSEC Facilities Network is a nationwide partnership of NSF supported MRSEC centers designed to provide support to researchers in the broad area of Materials Research in academic, government and industrial laboratories around the world. NSF MRSEC centers are geographically spread throughout the United States at major research university which greatly enhances the ability for researchers from other institutions to gain access to the wide array of instrumentation and facilities presently available.

- [CORNELL Facilities](#)
- [CSM Facilities](#)
- [JHU Facilities](#)
- [MIT Facilities](#)
- [NWU Facilities](#)
- [PRINC Facilities](#)**
 - [Imaging and Analysis Center](#)
 - [Keck Computational Materials Science Laboratory](#)
 - [Advanced Photon Source \(APS\) Beamline](#)
 - [Polymer Synthesis Laboratory](#)
 - [Electron Beam Lithography](#)
- [PSU Facilities](#)
- [UCHI Facilities](#)
- [UCSB Facilities](#)



Workshop Findings

Other Findings:

- **External users and industry partnerships** provide valuable income, demand a high level of reliability for continued customer relations.
- High-quality **instrument training programs** and ongoing **relationships with technical staff** allow for maximum success of students and users.



Upcoming MRFN Endeavors

Redesign of MRFN.org

- ✓ Membership has outgrown existing layout
- ✓ Improved Tool *and Personnel* Search Engine
 - where is the geographically closest XPS to my university?
 - does anyone have a TOF-SIMS system I can use?
 - where can I find an expert on HR-TEM?
- ✓ Tighten integration with websites and online tools



Further Augmentations for the MRFN

- ✓ Launch of ***SharedFacilityListserv***, connecting technical staff of network facilities.
Now accessible via MRFN.org
- ✓ ***Facilities Brochures*** on UCSB and MRFN Member Instrumentation and Expertise are in design.
- ✓ ***Expanding collaborations*** with PREM partner facilities, undergraduate and minority-serving institutions are ongoing.